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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,862	12/26/2001	Hong-Man Moon	8733.567.00	7627

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EXAMINER

LANDAU, MATTHEW C

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 02/13/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,862

Applicant(s)

MOON ET AL.

Examiner

Matthew Landau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:)

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: the Background section of the specification refers to both the data line and sealant as reference numeral 40 (page 8).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 11, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claim 1, the limitation “wherein each electrostatic discharge device is at a distance of more than one pixel pitch” renders the claim indefinite. The location of the electrostatic discharge device cannot be determined since no beginning reference point, from which to measure the distance, is provided. The limitation “each connecting line connecting each pixel to each electrostatic discharge device” also renders the claim indefinite. It is unclear if one pixel is connected to one electrostatic device or if one pixel is connected to all electrostatic

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devices. For the purposes of this Office Action, it is considered that each pixel is connected to one electrostatic discharge device.

In regards to claims 11 and 13, the term "about" is a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 12, 14, 15, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art.

In regards to claim 1, as best the examiner can ascertain the claimed invention, Figure 4 of the instant specification discloses an in-plane switching liquid crystal display device, comprising: a substrate having a display region A and a non-display region B; a plurality of pixels P in the display region; a plurality of first and second electrodes (34 and 36) on the substrate; a plurality of electrostatic discharge devices 32 in the non-display region, wherein each electrostatic discharge device is at a distance of more than one pixel pitch; and a plurality of first

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connecting lines 40 in the non-display region, each connecting line connecting each pixel to each electrostatic discharge device.

In regards to claim 2, Figure 4 of the instant application discloses a plurality of switching devices T on the substrate.

In regards to claim 3, Figure 4 of the instant application discloses each switching element T is disposed in each pixel.

In regard to claim 4, Figure 4 of the instant application discloses the switching device T includes a thin film transistor.

In regards to claim 5, Figure 4 of the instant application discloses first (not labeled) and second 40 lines on the substrate.

In regards to claim 6, Figure 4 of the instant application discloses the first and second lines apply signals to each switching device.

In regards to claim 7, Figure 4 of the instant application discloses the first line includes a gate line.

In regards to claim 8, Figure 4 of the instant application discloses the second line 40 includes a data line.

In regards to claim 9, Figure 4 of the instant application discloses the first electrodes 36 include a pixel electrode.

In regards to claim 10, Figure 4 of the instant application discloses the second electrodes 34 include a common electrode.

In regards to claim 12, Figure 4 of the instant application discloses a plurality of pads 42 in the non-display region.

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In regards to claim 14, Figure 4 of the instant application discloses a plurality of second connecting lines (between the electrostatic discharge devices 32 and the pads 42) in the non-display region.

In regards to claim 15, Figure 4 of the instant application discloses each second connecting line connects each electrostatic discharge device 32 to each pad 42.

In regards to claim 16, the intended use limitation “wherein a voltage of the first connecting lines is deferent from a voltage of the electrostatic discharge devices” does not structurally distinguish the claimed invention over the prior art.

In regards to claim 17, the intended use limitation “where each first connecting line receives signal voltage of inverted phase” does not structurally distinguish the claimed over the prior art.

In regards to claim 18, Figure 4 of the instant application discloses an auxiliary line 38 in the non-display region.

In regards to claim 19, Figure 4 of the instant application discloses the auxiliary line 38 connects each of the electrostatic discharge devices 32.

In regards to claim 20, Figure 4 of the instant application discloses the auxiliary line receives a signal applied to the second electrode.

Claims 1, 2, 3, 5-10, 13, 14, 15, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiraki et al. (US Pat. 5,926,234, hereinafter Shiraki).

In regards to claim 1, as best the examiner can ascertain the claimed invention, Figures 1-4 of Shiraki disclose a substrate 1 having a display region and a non-display region; a plurality of

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pixels 7 in the display region; a plurality of first and second electrodes (7a and 24) on the substrate; a plurality of electrostatic discharge devices 10 in the non-display region, wherein each electrostatic discharge device is at a distance of more than one pixel pitch; and a plurality of first connecting lines in the non-display region, each connecting line connecting each pixel to each electrostatic discharge device.

In regards to claim 2, Figures 1-4 of Shiraki disclose a plurality of switching devices 8 on the substrate.

In regards to claim 3, Figures 1-4 of Shiraki disclose each switching device 8 is disposed in each pixel.

In regards to claim 5, Figures 1-4 of Shiraki disclose first and second lines (3 and 2) on the substrate 1.

In regards to claim 6, Figures 1-4 of Shiraki disclose the first and second signal lines (3 and 2) apply signals to each switching device 8.

In regards to claim 7, Figures 1-4 of Shiraki disclose the first line 3 includes a gate line.

In regards to claim 8, Figures 1-4 of Shiraki disclose the second line 2 includes a data line.

In regards to claim 9, Figures 1-4 of Shiraki disclose the first electrodes 7a include a pixel electrode.

In regards to claim 10, Figures 1-4 of Shiraki disclose the second electrodes 24 include a common electrode.

In regards to claim 12, Figures 1-4 of Shiraki disclose a plurality of pads 6 in the non-display region.

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In regards to claim 13, as best the examiner can ascertain, Figures 1-4 of Shiraki disclose each pad is between about 1 to about 2.5 millimeters from each electrostatic discharge device.

In regards to claim 14, Figures 1-4 of Shiraki disclose a plurality of second connecting lines 11 in the non-display region.

In regards to claim 15, Figures 1-4 of Shiraki disclose each second connecting line 11 connects each electrostatic discharge device 10 to each pad 6.

In regards to claim 18, Figures 1-4 of Shiraki disclose an auxiliary line 11 in the non-display region.

In regards to claim 19, Figures 1-4 of Shiraki disclose the auxiliary line 11 connects each of the electrostatic discharge devices 10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Seraphim et al. (US Pat. 5,889,568, hereinafter Seraphim).

The difference between the admitted prior art and the claimed invention is one pixel pitch is between about 1mm and about 1.5. Seraphim discloses an LCD device wherein the pixel pitch is one millimeter (column 15, lines 45-50). In view of such teaching, it would have been obvious

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to the ordinary artisan at the time the invention was made to modify the invention of the admitted prior art by having a 1mm pixel pitch for the purpose of simplifying the fabrication process.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Song et al., Kusanagi, and Ha disclose a LCD device with an ESD device at a distance from a display region.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (703) 305-4396.

The examiner can normally be reached from 8:00 AM-4: 30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


ALLAN R. WILSON
PRIMARY EXAMINER

Matthew C. Landau

Examiner

February 8, 2003